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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/569,179	02/22/2006	Johan Paul Marie Gerard Linnartz	NL031056	1994
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EXAMINER HANNON, CHRISTIAN A				
ART UNIT 2618		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/569,179

Applicant(s)LINNARTZ, JOHAN PAUL MARIE
GERARD**Examiner**

CHRISTIAN A. HANNON

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3, 4, 6-16 and 18-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 3-4, 6-13 is/are allowed.
- 6) ☒ Claim(s) 14, 16 and 18 is/are rejected.
- 7) ☒ Claim(s) 15 and 19-22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This action is response to applicant's response filed on 11/02/2009. Claims 1, 3-4, 6-16, 18-22 are now pending in the present application. **This action is made final.**

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 14, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frost et al (US 4,097,866), hereinafter Frost, In view of Salvaudon et al (US 4,190,837), hereinafter Salvaudon.

Regarding claims 14 and 16, Frost teaches a method and computer readable medium for cancelling or at least reducing signal distortions of a desired content carried by a radio signal received by a moving diversity receiver, wherein the signal distortions occur due to time-variations of a receiving channel in a radio system, said method comprising the acts of receiving a first signal on a first receiving branch having associated thereto a first antenna element (see figure, antenna 1), receiving a second signal on a second receiving branch associated thereto a second antenna element (see figure, antenna 2), obtaining from the first signal and from the second signal, a third signal representing an estimation of a spatial derivative of at least one receiving channel parameter (see figure, summer 17), processing the third signal to obtain a fourth signal

(processing done by mixer 12 of figure), processing the first signal as received to obtain a first signal (processing done at item 8 of figure), combining the fourth signal and the first signal to obtain an output signal corresponding to the desired content of the radio signal (combining taking place at summer 4 of figure). However Frost fails to disclose wherein the first antenna element and the second antenna element are closely spaced and arranged behind each other in a direction of motion of the diversity receiver.

Salvaudon discloses that a jammer canceler may be placed on a vehicle (see column 1, lines 9-20; Salvaudon). Therefore it would be obvious to modify the teachings of Frost to include the disclosed canceler with the vehicular mounting of the Salvaudon jammer canceler to provide a practical use for the technology (e.g. in a vehicle), furthermore based on the two possible orientations for positioning said jammer canceler (either with direction or not with direction of the vehicle's movement) it would be obvious to try, for a person of ordinary skill in the art, void of an unpredictable claimed result, to position the jammer canceler in either of the positions on the vehicle.

Regarding claim 18, Frost teaches a diversity receiver for receiving a desired content carried by a radio signal on a radio channel, said diversity receiver comprising a first antenna configured to receive a first signal on a receiving channel (see figure, antenna 1 and output thereof), a second antenna configured to receive a second signal on a receiving channel (see figure, antenna 2 and output thereof), a first combiner configured to form a third signal from the first signal and the second signal (summer 3 of figure), a first processing unit configured to process the third signal to obtain a fourth signal (mixer item 12 of figure with output thereof as the fourth signal), a second

processing unit configured to process the first signal as received to obtain a fifth signal (see figure item 8, output thereof is the fifth signal), a second combiner configured to combine the fourth signal and the fifth signal to obtain an output signal corresponding to the desired content of the radio signal (output of figure as shown stemming from summer item 4), wherein the third signal represents an estimation of a spatial derivative of at least one receiving channel parameter and wherein the third signal is used to reduce signal distortions that occur due to time-variations of the receiving channel (third signal as used is to mitigate jammers occurring at different times, as disclosed by Frost at any given time any number of jammers [of varying powers] may be present; see column 2, lines 20-64). However Frost fails to disclose wherein the first antenna element and the second antenna element are closely spaced and arranged behind each other in a direction of motion of the diversity receiver. Salvaudon discloses that a jammer canceler may be placed on a vehicle (see column 1, lines 9-20; Salvaudon). Therefore it would be obvious to modify the teachings of Frost to include the disclosed canceler with the vehicular mounting of the Salvaudon jammer canceler to provide a practical use for the technology (e.g. in a vehicle), furthermore based on the two possible orientations for positioning said jammer canceler (either with direction or not with direction of the vehicle's movement) it would be obvious to try, for a person of ordinary skill in the art, void of an unpredictable claimed result, to position the jammer canceler in either of the positions on the vehicle.

Allowable Subject Matter

3. Claims 1, 3-4 and 6-13 are allowed.

Claim 1 is allowed as set forth in the action mailed, since the Applicant as incorporated the objectionable subject matter into the independent claim.

Claims 3-4 and 6-13 are allowed as they depend from allowable independent claim 1.

4. Claims 15, 19-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 15, Frost teaches claim 14, however fails to teach wherein the act of estimating the spatial derivative comprises calculating a difference between the radio signal received at a first position of said two closely spaced positions and the radio signal received at a second position of said two closely spaced positions.

Regarding claim 19, Frost teaches claim 18, however fails to teach wherein the first combiner is configured to form the third signal from the first signal and a difference signal, the difference signal being a difference between the first signal and the second signal.

Regarding claim 20, Frost teaches the diversity receiver as claimed in claim 19, however fails to teach wherein said diversity receiver further comprises a weighting unit configured to multiply the difference signal with a factor that depends on at least one a speed of the diversity receiver and a distance between the first antenna and the second antenna.

Regarding claim 21, Frost teaches the diversity receiver as claimed in claim 19, however fails to teach wherein said diversity receiver further comprises a decorrelator configured to decorrelate the difference signal and the third signal and compute a weighting factor for weighting the difference signal.

Regarding claim 22, Frost teaches the diversity receiver as claimed in claim 19, however fails to teach wherein said diversity receiver further comprises a multiplier configured to multiply the difference signal with a linearly increasing ramp function.

Response to Arguments

5. Applicant's arguments in the response mailed 11/02/2009 have been fully considered but are moot in view of the new grounds of rejection found hereinabove.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTIAN A. HANNON whose telephone number is (571)272-7385. The examiner can normally be reached on Mon. - Fri. 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Edward Urban/

Supervisory Patent Examiner, Art Unit 2618